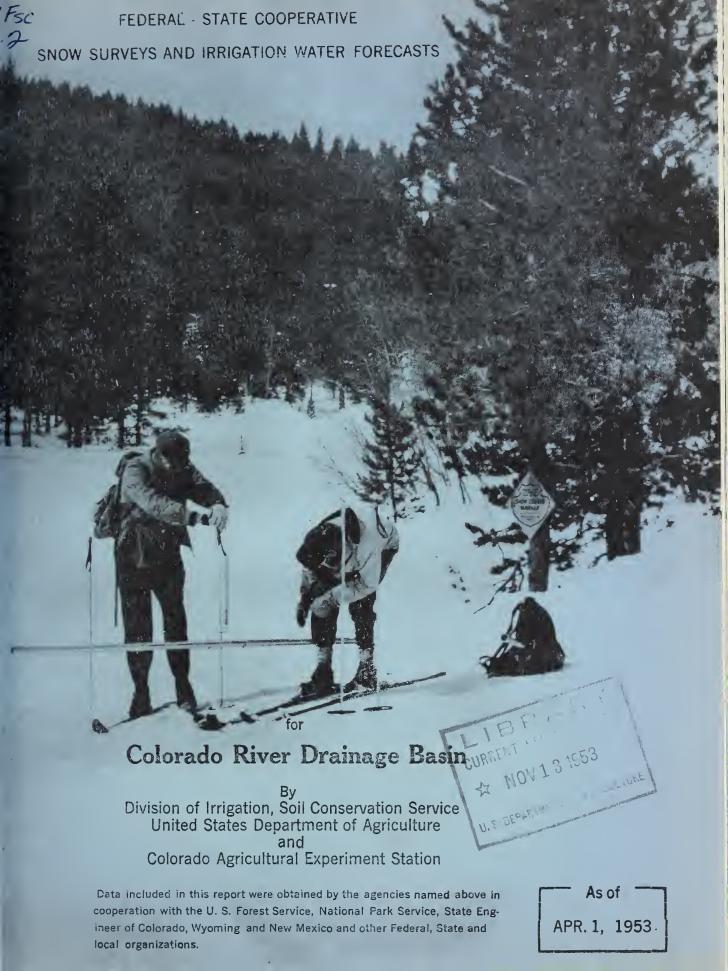
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# UNITED STATES DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

TO RECIPIENTS OF COOPERATIVE SNOW SURVEY AND WATER SUPPLY FORECAST REPORTS:

Forecasts by U. S. Weather Bureau of total annual streamflow October-September, inclusive, at more than 300 gaging stations are issued monthly January through May in the publication WATER SUPPLY FORECASTS FOR THE WESTERN UNITED STATES.

Weather Bureau forecasts of runoff presented in this bulletin are computed from procedures based on mathematical analysis of the relation between precipitation and runoff.

The Weather Bureau bulletins may be secured by writing to:

Hydrologist in Charge River Forecast Center U. S. Weather Bureau 712 Federal Office Building Kansas City 6, Missouri

### FEDERAL-STATE COOPERATIVE

### SNOW SURVEYS AND IRRIGATION

### WATER SUPPLY FORECASTS

For

### COLORADO RIVER DRAINAGE BASIN

April 1, 1953

Report Prepared

by

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### WATER SUPPLY OUTLOOK COLORADO RIVER DRAINAGE APRIL 1, 1953

The water supply outlook for the Colorado River and its tributaries in Colorado, Wyoming and New Mexico is for much less than normal flow during 1953. There was less than normal snow fall during February and March and forecasts have been reduced during this period particularly in southwestern Colorado and New Mexico. The flow of the Colorado River into Lake Mead is expected to be about 60 percent of normal this year or near the lowest flow since the reservoir was completed.

In Arizona, snow is practically gone from all watersheds. Spring flows for the Verde River are expected to be about 35 percent of normal, for the Salt River about 50 percent and 20 percent or less for the Gila River for 1953 which has practically no storage. Storage on the Salt River drainage is very high and the outlook for 1953 is good regardless of expected low inflows.

# GREEN RIVER TRIBUTARIES IN COLORADO, WYOMING AND UTAH

Snow cover on the Green River in Wyoming is slightly below normal but fore-casts have been reduced to about 60 percent of normal due to an extremely dry soil and lack of snow at lower elevations. Slightly higher flows in respect to normal may be expected for the Yampa and White Rivers, near their headwaters. The flow of the Yampa will decrease in relation to average below its junction with the Elk River and the Little Snake River. Snow cover on Utah tributaries is well below normal. Soil moisture conditions are fair to good in irrigated crop and meadow land in Colorado but fair to poor on range and irrigated meadow lands in Wyoming. Stream flow is currently about average.

# COLORADO RIVER AND TRIBUTARIES IN COLORADO

The flow of Colorado tributaries in Colorado is forecast from about 80 percent of normal on the Upper Colorado River and tributaries above Grand Junction down to 40 percent of normal for the San Juan and other streams in southwestern Colorado. The soil was dry under the snow at the beginning of the snow accumulation season. This will reduce the flow of streams to less than indicated by current snow cover. No material permanent snow occurred until mid-November which was a month or six weeks later than average. Precipitation at lower elevations has been below average through the fall and winter months to date.

Soil moisture conditions are reported as fair to good in all irrigated areas of the west slope except in areas served by the San Juan, Animas and Dolores Rivers. In these latter areas soil moisture conditions are poor as

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of April 1. Storms since April 1 have materially improved sod moisture conditions especially along the Gunnison and Uncompangre Rivers. Gurrent stream flow follows about the same pattern as soil moisture conditions with near normal flow in all streams except the San Juan, Animas and Dolores.

There has been very little snow at foothill and valley elevations this winter, partially due to warm temperatures. The surface of the soil was wet under the snow at low and medium elevation snow courses on April 1.

Storage in Granby, Green Mountain, Taylor Park, Vallecito and Groundhog Reservoirs is substantially above April 1, 1952 and the past ten year average. The Granby Reservoir serving the Colorado-Big Thompson project is about 90 percent of capacity.

## COLORADO RIVER TRIBUTARIES IN ARIZONA

There is no snow or snow-stored water on the Verde watershed snow courses. There is a very little snow on the north slopes and in heavily shaded spots. The ground is generally moist, but not saturated. The normal snow-stored water as of this date is 2.2 inches. Bureau 30-day outlook is for moderate to below normal precipitation, and below normal temperatures. The Verde will probably not run over 20,000 acre feet into Horseshoe Reservoir for the period April and May. This is about 35% of normal.

As of this date the average snow depth on the Salt River whatershed is 6.3 inches, snow-stored water averages 1.9 inches. This is about 82% of normal. However, this is not as good as it might a ppear, because all of the snow is near the 9,000 foot level or above, and it is going off fast. Ground moisture conditions are good, even saturated at the higher elevations. Using the Weather Bureau 30-day outlook, quoted above, the runoff for the period April and May on the Salt will probably not be over 80,000 acre feet. This is 51% of normal for the period.

The snow courses on the Gila River watershed are bare of snow, although there are some drifts in shaded areas and north exposures at the extreme high elevations. This watershed is extremely varied, soil moisture conditions are fair to good. Again using the Weather Bureau 30-day outlook, runoff on the Gila above Safford will probably do well to realize 10,000 acre feet for the period April and May.

The Little Colorado River snow courses are bare, although there is still some snow in protected areas. Runoff will probably be about 20% of normal. The Lower Colorado has snow only on the North Rim of the Grand Canyon. The snowstored water on this watershed is about 21% of normal. The Bill Williams and Agua Fria watersheds have no snow-stored water at all. The only runoff that can be expected will have to be from precipitation that might come.

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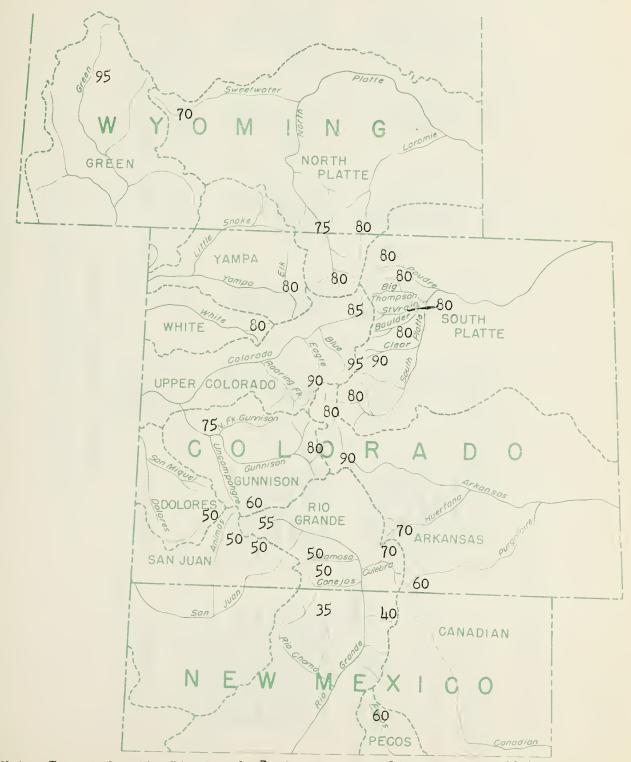
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WATER CONTENT OF SNOW ON THE WATERSHEDS OF PLATTE, ARKANSAS, UPPER COLORADO AND RIO GRANDE BASINS
BASED ON SNOW SURVEYS MADE APPROXIMATELY FIRST DAY OF MONTH

In Percent of Normal April 1, 1953



Note: Except for the Rio Grande Drainage snow melt season runoff is expected to be less than indicated by snow water content because of deficient precipitation during the fall months.

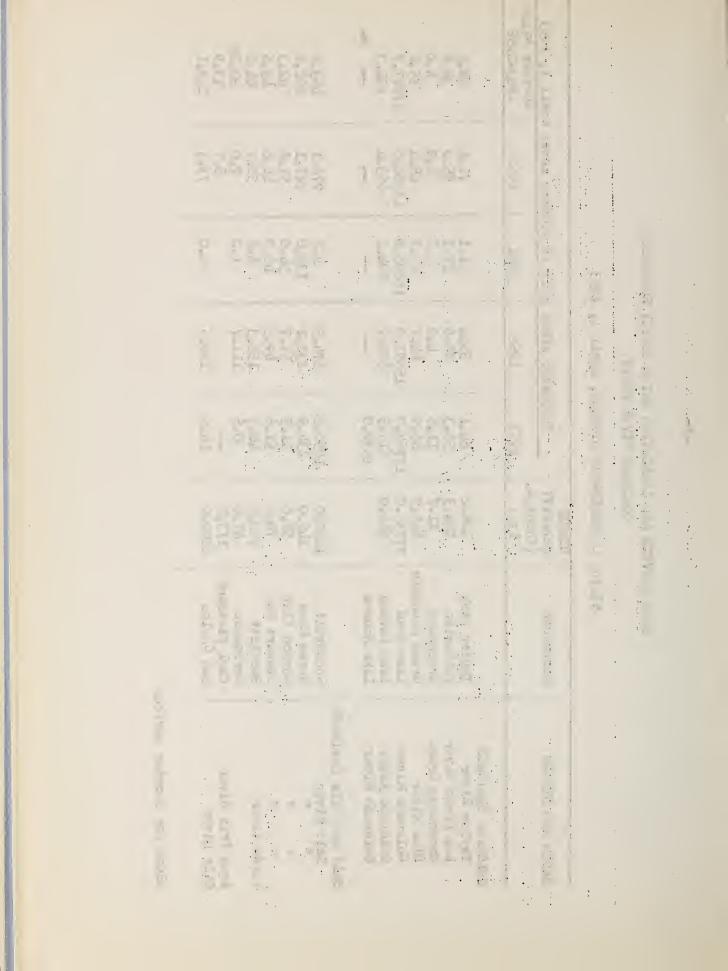


# SNOW SURVEYS AND IRRIGATION WATER SUPPLY FORECASTS COLORADO RIVER BASIN

STATUS OF RESERVOIR STORAGE, April 1, 1953

BASIN AND STREAM	RESERVOIR	USABIE	THOUS	ANDS ACRES	FEET IN STO	RAGE About	THOUSANDS ACRES FEET IN STORAGE About April 1, 1953
		(Thous.A. Ft.)	1953	1952	1951	1950	10-year Avgo* 1943-1952
COLORADO DRAINAGE	ned perm						
Tavlor River	Taylor Park	106,2	64,1	55°4	51,1	72°6	9°69
Los. Pinos River	Vallecito	126,3	56,3	26 <sub>c</sub> 6	27,1	55.0	3808
Groundhog Creek	Groundhog	2.1.2	11.5	0°7	3,2	8,0	8,0
Blue River	Green Mountain	146.9	86,9	84.7	63.2	7°89	55.8
Colorado River	Lake Mead	27935.0	17764,0	15691,0	16806,0	1768600	17927.7
Colorado River	Lake Havasu	6880	618.5	6009	604.2	663°4	631.03
Colorado River	Lake Mohave		1639.0	1	1	1	** ***
SALT AND GILA DRAINAGE							
Salt River	Roosevelt	1420,0	1050°6	674.5	8°17	276,1	153.0
=	Horse Mesa	245.0	234.9	232°2	135.0	227°1	202,8
=	Flormon Flat	58.0	51,5	51.9	54,0	5,15	12,3
=	Stewart Mt.	70°0	51.6	49.5	0°8†	8°87	43.5
Verde River	Bartlett	200%	148.7	156.3	9°9	59.2	84,0
	Horseshoe	67.0	900	111.7	1,0	200	30°2%
Aqua Fria River	Carl Pleasant	173.0	2			6.7	13,9
Gila River	San Carlos	120000	14.5	160°5	0.0	73.3	149.1
					~~ *1 *		

\*Some for shorter periods



colorado river drainage basin stream flow forecasts, afril 1, 1953

		Anril-Sent.	Incl.	Streamflow. Acre Feet	
BASIN AND STREAM	Forecast 1953	1952	.951	2	10-year Avg. 1941-1950
GREEN					
Green at Linwood, Utah Little Snake at Lily Elk at Clark Yampa at Steamboat Springs White at Weeker	800,000 225,000 160,000 215,000 250,000		1,879,000 254,000 214,000 244,000 324,000	2,118,000 320,000 224,000 245,000 303,000	1,346,000 365,000 213,000 272,000 333,000
COLORADO					
Colorado near Granby Willow Creek near Granby Frazer at Granby Blue Above Green Wt. Res. Colorado at Glenwood Springs Roaring Fork at Glenwood Springs Plateau Creek at Collbran Gunnison at Iola Uncompahgre at Collona Sufface Creek near Gedaredge Gunnison at Grand Junction San Juan at Rosa, N.M. Piedra Creek at Piedra Los Pinos near Bayfield Florida near Durango Animas at Durango La Plata at Hesperus Dolores at Dolores Colorado near Grand Canyon-Ariz.	130,000* 22,600 55,000* 600,000 1,100,000 350,000 10,000 300,000 125,000 125,000 125,000 125,000 125,000 125,000	2,077,000 1,084,000 304,000	15,000 *** 50,000 121,000 367,000 719,000 484,000 69,000 590,000 270,000 270,000 126,000 126,000 126,000 126,000	11,4,000 *** 56,000 73,000 254,000 633,000 633,000 472,000 11,000 11,000 121,000 121,000 121,000 121,000 121,000 121,000 121,000 121,000 121,000 121,000	185,000 39,000 287,000 1,443,000 812,000 60,000 179,000 179,000 179,000 179,000 179,000 179,000 179,000 179,000 183,000 240,000 240,000 240,000 240,000 240,000 240,000 240,000 240,000 273,000 335,000
				Dr. nowwe	

\*\*\*Actual flow only \*\*\*Actual Flow Below Granby

# SNOW SURVEYS AND IRRIGATION WATER FORECASTS for COLORADO RIVER BASIN

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MARY OF APRIL 1 SNOW SIRVEYS AND COMPARISON OF

YEARS BY WATERSHEDS	Water Content in	Percent of		17 yr. Avg.*		77	94	80	95	82	73	72	52	52	47	1	70	1	1	1	20	-
PREVIOUS	1953			1921		52	70	20	78	57	21	45	31	31	21	ì	56	1	1	1	α	
I THAT OF	Snow	Density	1953	Percent		58	33	33	33	35	31	30	25	34	27	1	29	1	1	1	35	
DATA WITH	No. of	Courses	in	Average		21	82	CZ	9	2	٦	12	4	9	82	თ	80	7	9	છ	4	
AND COMPARISON OF DATA WITH THAT		Snow Water Content in Inches	17 yr.*	Average		13.7	18.6	23.9	13.4	21.7	16.2	16.7	12.6	16.8	8.6	6.0	2.0	2.9	2.0	0.1	3.9	**Above Glenwood Springs
ND COMP		tent in		1921		16.2	20.6	15.9	18.9	22.8	16.5	12.7	7.9	8.6	4.9	0.0	0.5	0.0	0.0	0.0	1.5	enwood
EVEYS AD		ter Cor		1952		20.3	24.7	38.4	16.2	31.3	23.0	26.7	21.1	28.3	18.9	2.2	5.4	6.9	4.5	0.0	10.5	bove G
NOW SUF		Snow We		1953		10.6	17.4	19.1	12.7	17.8	11.8	12.0	6.5	8.8	4.0	0.0	7.4	0.0	0.0	0.0	0.8	
RIL 1 S	Snow	Depth	1953	Inches		36.7	53.0	57.2	38.2	50.4	37.5	40.5	25.6	25.8	14.7	0.0	4.8	0.0	0.0	0.0	2.3	periods
SUMMARY OF APRIL 1 SNOW SURVEYS		WATERSHEDS			COLORADO RIVER	Colorado River**	Roaring Fork	Plateau Creek	Green River	Yampa River	White River	Gunnison River	Dolores River	San Juan River	Animas River	Gila River	Salt River	Verde River	little Colo. River	Williams River	Lower Colo. River	*Some for shorter periods

# PRECIPITATION DATA

		Precipitation*	Departure	Precipitation*	Departure
WATERSHED	SIATE	October 1 to	from		from
		March 31	Normal	March	Normal
		Inches	Inches	Inches	Inches
Colorado	Colorado	6.14	-3.08	1.66	60.0-
Green	Wyoming	2.45	-2.39	0.48	-0.30
San Juan	New Mexico	3.81	-1.35	0.75	-0.21
Colorado	Arizona	5.49	-2.15	1.30	+0.04
Gila	Arizona	86•98	-0.02	2.44	+1.26

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# COLORADO RIVER DRAINAGE SNOW SURVEYS April 1, 1953

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Drainage Basin	No.		Date	Snow	Water	Conte	nt	I	Record
and	and	Elev.	of	Depth				Yrs.	Av. Water
Snow Course	State		Survey		1953	1952	1951	Rec.	Content
				In.	In.	In.	In•		In.
	•			DO RIVE	R				
COLORADO RIVER (A	bove Glenw			1					
Cameron Pass*	1 Colo.	10300		54.0	18.8	28.8	25.0	17	21,8
Park View*	7 "	9200	3/30	26.2	5.8	16.9	8.7	17	10.7
Phantom Valley	12 "	9300	3/30	29.0	8.2	19.0	13.5	17	10.6
Hoosier Pass	14 "	11400		41.7	10.6	19.0	17.6	17	12.8
Berthoud Pass	16 "	9700		44.3	13.3	23.4	18.3	17	16.4
Tennessee Pass	19 "	10200		36.4	7.4	19.1	13.2	17	9.8
M.Fork Camp.Gr.	37 "	9000		24.9	6.4	15.8	13.4	17	10.3
Fiddler Gulch	44 "	11000		12 cd 0 \		26.3	22.1	17	16.1
Lulu	59 "	10200		43.8	11.3	21.7	21.7	15	17.5
Willow Creek P.	62 "		3/30	36.2	10.5	20.5	12.6	15	13.5
N.Inlet Grand L.	64 "		3/28	28.0	8.5	17.9	11.3	15	9.9
Lake Irene		10600	17/27	53.8	20.4	30.8	30.2	15	22.3
Arrow	69 "	9900		30.8	7.9	18.5	12.5	15	10.5
Lapland "a	70 "	9500		32.7	8.7	18.8	15.4	15	12.0
Fremont Pass #2	79 "	11400		57.6	17.2	23.0	22.9	17	16.7
Lynx Pass	91 "		3/30	33.3	9.6	18.5	12.1	17	13.1
Shrine Pass	96 "	10500		55.0	19.4	24.1	22.4	11	18.4
Grizzly Peak	97 "	11250		45.2	14.7	27.0	24.3	1.1	19.1
Glen-Mar Ranch	102 "	8850		22.3	5.4	15.7	12.3	6	10.3
Monarch Lake	106 "		3/30	29.1	.6.3	19.1.	14.6	5	12.9
Granby	113."	8700	3/29	19.0	.6.8	12.0	7.6	5 4	8.9
Grand Lake	127 "	8600	3/30	27.6	5.9	16.1	10.5	4	11.0
Berthoud Summit	138 "	11300		56.0	17.3	24.0	17.3	2	
Frazer View	139 "	10600		39.0	11.6	16.0	15.5	2	
Gore Pass	143 "		3/30	32.7	10.0	15.0	9.2	2	
Frisco	146 "	9300		28.8	8.3	12.0	11.4	2	
Snake River	147 "		3/28	23.0	5.6	14.0	13.3	2	
Summit Ranch	158 "	10000		20.0	5.9	15.0	11.7	2	
Vail Pass	163 "	10000		49.3	15.5	26.0	1-1-01	_	
Pando	168 "	70000	2/20	21. 3	17.0	71. 6			
Average for		9500	3/30	34.h 36.7	9.6	14.6	16.2		73.7
	mariiage			20.1	T0.0	20.5	10.2		13.7
ROARING FORK				1.0					- 0 0
Ind Pass Tunnel	33 Colo.			46.3	15.6	22.3	20.3.	17	18.8
North Lost Trail	34 "	9200				27.1	15.7	17	15.2
Nast	45 "	8700				11.2	8.7	17	6.2
Ivanhoe	100 "	10400		59.6	19.1	27.0.	20.8	6	18.4
Ruby	144 "	11500	4/1	40.9 53.0	12.0	20.7	15.8	2	
Average for	drainage			53.0	17.4	24.7	20.6		18.6
GREEN RIVER			,						
Dutch Joe	23 Wyo.		3/23	28.0	8.0	11.0	10.4	14	8.4
Mulligan Park	5/1 11	8900	3/31	35.8	11.9.		16.5	17	10.9
Kendall R.S.	25 "	7900	3/23	30.8	10.1	12.0	14.0	16	11.6
Loomis Park	26 "	8500	3/31	45.3	17.9	20.1	25.6	17	17.2
Snyder Basin R.S.		8040	3/25	41.0	13.4	17.9	22.1	16	13.7
Piney-LaBarge	28 "	8820	3/25	48.4	15.0	24.7	24.8	16	18.3
Average for				38.2	12.7	16.2	18.9		13.4
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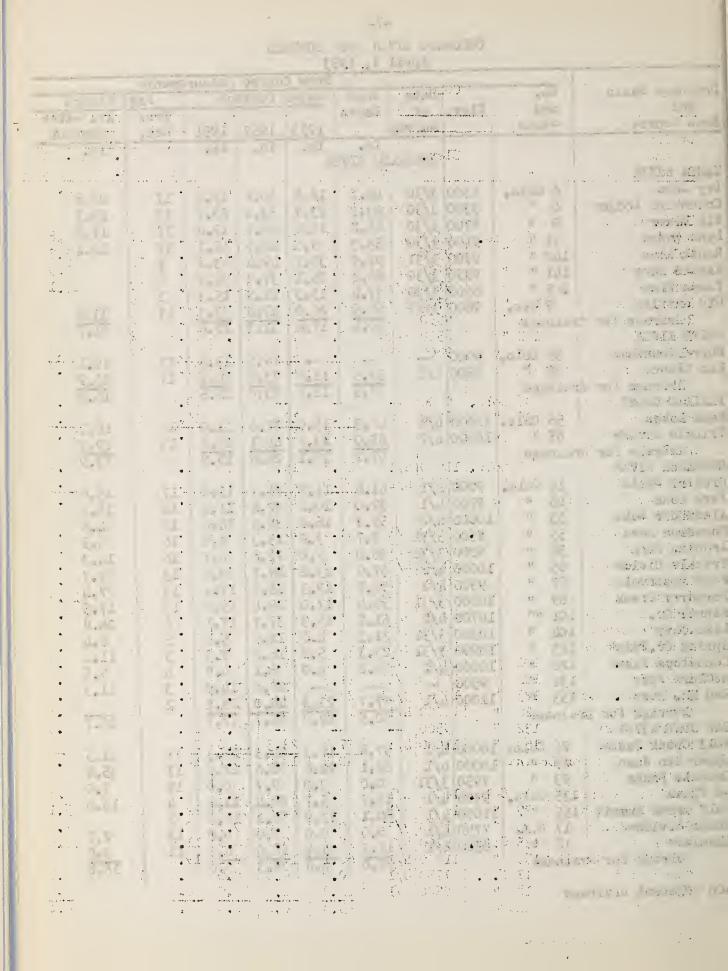
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# COLORADO RIVER SNOW SURVEYS April 1, 1953

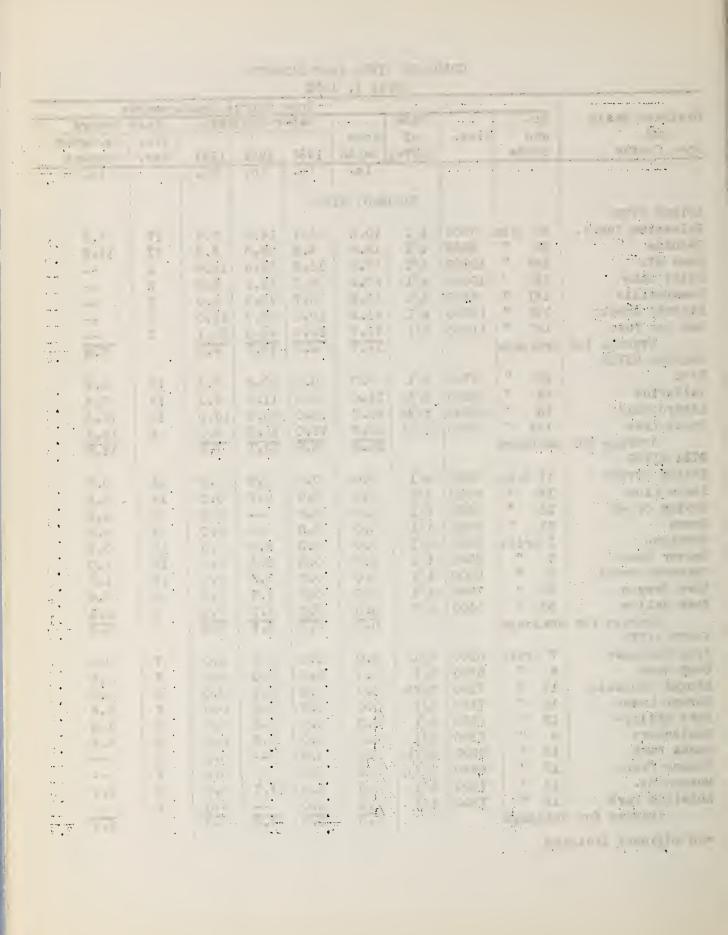
Snow Course Measurements No Drainage Basin Date Snow Water Content Past Record Elev. and of Depth Yrs. Av. Water and State Survey 1953 1952 1951 Snow Course Rec. Content In. In. In. In. In. COLORADO RIVER YAMFA RIVER 16.8 Dry Lake 6 Colos 8300 3/30 46.1 30.2 19.6 20,8 17 8 9300 3/30 63.1 Columbine Lodge\* 23.7 33.4 29.7 17 23.7 41.2 9 11 12.8 17 Elk River 8700 3/30 26.7 19.4 17.9 9100 3/30 91 " 53.3 9.6 Lvnx Pass\* 18,5 17 12.1 13.1 140 " 9700 3/31 Routt Line 92.9 35.7 49.4 43.2 2 66.8 141 " 9550 3/30 25.1 2 Rabbit Ears 37.7 29.9 1/12 11 Yampa View 8500 3/30 37.4 13.3 21.9 15.3 2 Old Battle\* 9 Wyo. 9800 3/27 68.5 47.8 17 33,2 26.0 33.3 21.7 17.8 31.3 Average for drainage 50.4 22.8 WHITE RIVER 35 Colo. 9000 29.5 13.5 Burro Mountain 17 19.1 11 37.5 16.5 36 8500 4/2 11.8 16.2 Rio Blanco 23.0 17 11,8 23.0 16.5 16.2 Average for drainage PLATEAU CREEK Mesa Lakes 56 Colo 10000 4/1 47.3 15.0 27.6 11.0 16 18.1 85 " Trickle Divide 10000 4/2 67.0 23.2 49.1 20.8 13 29.7 57.2 19.1 23.9 28.4 15.9 Average for drainage GUNNISON RIVER Crested Butte 18 Colo. 9000 4/1 41.4 11.2 26.7 16.0 17. 15.6 Park Cone 46 17 39.0 10.2 9700 4/1 22.4 11.0 16 11.0 38.9 Alexander Lake 53 10000 4/2 55.3 16.6 16.6 16 24.5 15.3 55 Snowshoe Mesa 8500 3/31 8.7 3.9 6.0 16 8,5 58 9800 3/31 Ironton Park 11 36.0 9.0 22.8 8.7 16 14.3 85 11 13 Trickle Divide 10000|1/2 67.0 23.2 49.1 20.8 29.7 87 Park Reservoir 9500 4/2 59.7 13 19.3 46.9 19.2 27.4 89 Porphyry Creek 10800 3/31 55.4 17.0 13 25.4 19.2 17.5 101 "" Kannah Cr. 10700 4/1 61.2 26.8 19.3 17.1 6 37.7 5 Lake City 104 tt 10300|3/31 21.3 4.8 12.5 5.3 8.4 Spring Cr. Pass\* 5.2 123 10900 3/31 23.3 16.2 7.3 11.1 4 126 18.2 Cochetopa Pass\* 10000 4/1 4.0 6.1 4.7 5.5 11 3 McClure Pass 132 9500 28.6 14.9 11.3 \* 2 Red Mt. Pass 153 11000 4/1 23.3 77.7 44.0 29.1 Average for Drainage 40.5 12.7 16.7 SAN JUAN RIVER 18.3 10000 4/1 Wolf Creek Pass\* 26 Colo. 57.8 55.3 20.3 31.5 17 Upper San Juan 29 10000 4/1 69.1 24.6 58.6 22.5 17 35.1 Granite Peaks 93 7950 3/31 12 0.0 0.0 9.7 0.0 7.0 28.4 La Plata 135 Colo. 9700 4/1 15.7 5.7 4 11.6 15.0 Wolf Creek Summit 155 2 11000 4/1 60.1 17.9 52.1 19.0 Chama Divide\* 17 N.M. 7750 4/1 2.7 0.0 0.0 0.0 0.0 13 8500 4/1 Chamita\* 18 12.3 18,0 11 4.4 4.2 9.6 Average for Drainage 16.8

\*On adjacent drainage



# COLORADO RIVER SNOW SURVEYS April 1, 1953

	1		Apr	11 1, 1	Snow	Cours	e Meası	ur ement	S
Drainage Basin	No.	ì	Date	i i		r Cont			Record
and	and	Elev.	<b>a</b>	Snow		1	1	Yrs.	Av. Water
Snow Course	State		Survey	V	1953	1952	1951	Rec.	Content
				In.	In.	In.	In.		In.
					•				
			COTO	RADO RI	VER				
ANIMAS RIVER		į		1	į		,		
Silverton Sub.S.	30 Colo			10.5	3.1	14.3	3.4	17	5.3
Cascade	31 "	8850		18.8	4.8	23.5	6.4	17	11.8
Spud Mt.	149 "	10700	1 / .	53.6	16.3	32.8	18.6	2	
Molas Lake	150 "	10500	1 / .	27.5	6.7	31.2	8.9	2	
Howardville	151 "	9800		30.6	6.7	20.3	9.0	2	es es
Mineral Creek	152 "	10300	1 ' .	41.2	10.0	20.8	12.0	2	
Red Mt. Pass	153 "	11000	4/1	77.7	23.3	44.0	29.1	2	
Average for	drainage			14.7	4.0	18.9	4.9		8.6
DOLORES RIVER									
Rico	23 "	8700		0.0	0.0	20.4	3.4	17	8.9
Telluride	24 "	8600	3/31	21.0	4.0	11.0	6.1	17	7.5
Lizard Head	25 "	10300	3/28	40.7	10.0	30.0	14.0	16	19.5
Trout Lake	1114 "	9700	3/31	40.7	12.0	22.8	8.0	4	14.3
Average for	drainage			25.6	6.5	21.1	7.9		12.6
GILA RIVER	į								
Frisco Divide	11 N.M.	8000	4/1	0.0	0.0	0.9	0.0	14	0.7
State Line	14 "	8000	4/1	0.0	0.0	0.7	0.0	14	0.4
Taylor Creek	22 "	7850	4/1	0.0	0.0		0.0	9	0.6
Inman	23 "	7800	4/1	0.0	0.0		0.0	6	0.8
Nutrioso	l Ariz.	8500	4/1	0.0	0.0	2.0	0.0	15	0.6
Beaver Head	2 "	8000	4/1	0.0	0.0	3.2	0.0	13	. 1.0
Coronado Trail	3 "	8000	4/1	0.0	0.0	5.3	0.0	15	1.3
Rose Canyon	29 "	7300	4/1	0.0	0.0	1.7	0.0	3	0.6
Bear Wallow	' 30 "	8100	4/1	0.0	0.0	6.3	0.0	3	2.1
Average for	drainage			0.0	0.0	2.2	0.0		0.9
VERDE RIVER	1								
Iron Springs*	7 Ariz.	1	4/1	0.0	0.0	0.0	0.0	7	0.0
Camp Wood	8 "	5700	4/1	0.0	0.0	0.0	0.0	7	0.4
Mingus Mountain	14 "	7100	3/28	0.0	0.0	0.0	0.0	6	0.0
Morman Lake*	13 "	7350	4/1	0.0	0.0	8.3	0.0	6	5.6
Fort Valley*	12 "	7350	4/1	0.0	0.0	5.6	0.0	6	1.9
Chalender*	9 "	7100	4/1	0.0	0.0	9.3	0.0	6	2.8
Munds Park	18 "	6500	3/31	0.0	0.0		0.0	2	em ste
Casner Park	17 "	6930	3/31	0.0	0.0		0.0	2	
Mormon Mt.	19 "	7500	4/1	0.0	0.0	11.1	0.0	3	3.7
Antelope Park	16 "	7300	4/1	0.0	0.0		0.0	2	
Average for	drainage		1	0.0	0.0	6.9	0.0		2.9
*On adjacent drain	age						1		



### COLORADO RIVER SNOW SURVEYS

April 1, 1953

			Apri	Snow C		easure	ments		
Drainage Basin	No.		Date			er Con			Past Record
and	and		of	Snow				Yrs.	Av. Water
Snow Course	1	Elev.	Survey	Depth	1953	1952	1951	Rec.	Content
				In.	In.	In.	In.		In.
			GOT ODA	DO DESER	D				
			COLORA	DO RIVE	K I				
WILLIAMS RIVER			,						
Iron Springs	7 Ariz.	1	1 / .	0.0	0.0	0.0	0.0	7	0.0
Camp Wood*	8 #	5700	4/1	0.0	0.0	0.0	0.0	7	0.4
Willow Ranch	15 "	5000	4/1	0.0	0.0	0.0	0.0	5	0.0
Average for	drainage			0.0	0.0	0.0	0.0		0.1
TOWNS GOTODADO DE	· ·								
LOWER COLORADO RI Bright Angel	ver   <b>ll</b> Ariz	8400	3/30	9.3	3.0	22.6	4.5	5	9.3
Grand Canyon	10 "	7500	3/30	0.0	0.0	4.5	1.4	5 5	1.5
Fort Valley	12 "	7350	4/1	0.0	0.0	5.6	0.0	6	1.9
Chalender	9 "	7100	4/1	0.0	0.0	9.3	0.0	6	2.8
Average for	! -		-7/ <b>-</b>	2.3	0.8	10.5	1.5	Ü	3.9
11.01.020	ur ar Image					10.0	100		
SALT RIVER		ļ							
Forest Dale	5 Ariz.	6000	3/30	0.0	0.0	0.0	0.0	14	0.1
McNary	4 "	7200	3/30	0.0	0.0		0.0	13	0.2
Nutrioso	1 "	8500	4/1	0.0	0.0	2.0	0.0	15	0.6
Coronado Trail	3 "	8000	4/1	0.0	0.0	5.3	0.0	15	1.3
Milk Ranch	6 "	7000	3/30	0.0	0.0	0.0	0.0	11	0.2
Workman Creek	17 "	5860	4/1	0.0	0.0		0.0	2	
Maverick Fork	23 "	9050	4/1	11.0	4.0			2	
Baldy	22 "	9000	4/1	15.1	4.7	14.7	0.0	3	4.9
Fort Apache	21 "	9000	4/1	22.9	6.8	16.2	3.8	3	6.7
Pacheta	20	7800	4/1	0.0	0.0	4.9	0.0	3	1.6
Average for	drainage			4.8	1.4	5.4	0.5		2.0
LITTLE COLORADO R	TVER								
Forest Dale*	5 Ariz.	6000	4/1	0.0	0.0	0.0	0.0	14	0.1
McNary	4 "	7200	$\frac{1}{4}/1$	0.0	0.0		0.0	13	0.2
Nutrioso*	11 "	8500	$\frac{1}{4/1}$	0.0	0.0	2.0	0.0	5	0.6
Mormon Lake	13 "	7350	$\frac{3}{3}$	0.0	0.0	8.3	0.0	6	5.6
Fort Valley	12 "	7350	4/1	0.0	0.0	5.6	0.0	6	1.9
Mormon Mt.	19 "	7500	3/31	0.0	0.0	11.1	0.0	3	3.7
Average for	t .		,	0.0	0.0	4.5	0.0		2.0
				1					
						***************************************			

<sup>\*</sup>On adjacent drainage

3 1 1 8 1 ... c 9.00 . ... 1001 er som kalling \* • v. 1-11-11-11-11 4 Te × W. C. . ! . specifical transfer to the first first transfer • . . . . \*\*\*\* . 11/4-, 11-170 7 0 . . : 1 [1] . - . . 3/2 1211 7 ... · · · · · 0 : B 1 . 0 . 3 .. . 2. With. . . and the 131/2 1 4 -

## COLORADO RIVER SNOW SURVEYS April 1, 1953

Snow Course Measurements Drainage Basin No. Date Snow Water Content Past Record and Elev. Depth Av. Water and of Yrs. 1953 1952 1951 Content Snow Course State Survey Rec. Tn. In. In. In. In. GREEN RIVER IN UTAH 134 Utah 3/30 Hewinta R.S. 9500 34.5 10.0 13.9 9.9 13 10.0 Hole-in-Rock 35 11 9150 3/31 22.5 5.5 10.7 5.4 16 6.3 King's Cabin (U) 39 8800 3/31 8.0 18.4 24.8 17 8.2 11.0 King's Cabin (L) 39A " 8600 3/31 17.4 5.3 15.9 6.6 14 10.5 Average for drainage 24.8 14.7 7.2 7.5 9.5 DUCHENSE RIVER 10500 Lake Fork Mt. 36 Utah 4/1 35.4 9.3 21.7 10.6 117 11.4 Paradise Park 11 10500 37 4/1 8.3 35.3 20.7 7.4 16 13.0 Mosby Mt. (L) 38A " 9500 4/1 25.1 5.9 19.4 8.8 114 12.5 Brown Duck Lake 10300 73 3/30 14.2 43.0 30.8 17.8 ---Indian Canyon 70 9100 4/1 17.5 5.3 23.8 17 7.7 11,1 Average for drainage 28.3 21.4 8.6 12.0 PRICE RIVER LO Utah 9100 Indian Canyon 4/1 17.5 5.3 23.8 7.7 17 11.1 Gooseberry Res. 11 8700 3/30 45.7 17.4 141,5 17.7 17 21.5 Staley Ranch 42A " 7600 3/31 0.0 17.9 0.0 2.8 121 7.1 Dry Valley Divide 42B " 7800 3/31 22.8 6.5 25.2 7.8 15 10.8 Hntngtn-Horseshoe 43 9800 3/30 55•3 20.8 50.0 22.4 17 26.6 Scofield Dam 76 9000 8.0 24.1 Mud Creek 77 8600 3/31 18.8 49.6 15.7 38.3 28.3 Average for drainage 10.0 31.7 11.7 15.4 SANRAFAEL RIVER 3/30 55.3 Hntngtn-Horsehose |43 Utah 9800 20.8 50.0 22.4 17 26.6 3/30 Seeley Creek R.S. 118A " 1000 32.9 10.1 37.8 13.0 115 17.7 44.1 15.5 43.9 22.7 Average for drainage 22.1 VIRGIN RIVER Gravel Spgs. Jnct. 56 Utah 7500 3/29 0.0 0.0 177.1 0.0 17 5.5 Harris Flat R.S.\* 57 7700 3/29 4.7 1.4 21.1 0.0 17 10.2 Duck Creek R.S.\* 58 11 8560 3/29 17.7 6.4 32.7 7.2 116 17.5 Cedar Breaks\* 59 11 10200 3/29 41.2 15.0 14.7 10.2 17 26.0 Webster Flats\* 3/29 61 11 9200 17.3 7.0 37.3 6.6 17 20.0 Pine Valley 9150 62 11 3/31 19.6 7.8 33.1 6.4 Average for drainage 16.2 30.0 4.8 15.8 COLORADO R. (S.E. UTAH) 21.8 4.9 LaSal Mt. 64 Utah 8800 17 10.7 26.6 6.6 16 Buckboard Flat :65 9000 3/30 10.5 33.1 15.8 6.6 133.I 10.5 26.6 Average for drainage

<sup>\*</sup>On adjacent drainage

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### LIST AND LOCATION OF SNOW COURSES

### Platte, Arkansas, Colorado and Rio Grande Drainages

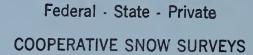
									_				
No	•	Name Cheyenne	Seo.	Twp.	Rge.	Elev.	No	•	Name Upper Colorado	Seo.	Twp.	Rge.	Elev.
1	SD	Upper Spearfish	21	3N	1E	6500	12	С	Phantom Valley	7	5N	75W	9300
_		-FFF					16	C	Berthoud Pass	35	28	75W	9700
		North Platte					37	C	M. F. Camp Ground	16	3\$	77W	9000
7	C	Park View	24	5N	78W	9200	44	C	Fiddler Gulch	1	88	80 <b>//</b>	11550
8	C	Columbine	21	5N	82W	9300	59	C	Lulu	25	6N	76W	10200
156	C	Northgate	7	11N	79W	8500	64	C	N. Inlet Grand Lake	26	4N	75W	9000
7	W	Bottle Creek	24 27	14N	85W 85W	9000	65 69	C	Lake Irene	8 <b>34</b>	5N <b>1</b> S	75W 75W	10600 9900
9	M	Webber Spring Old Battle	29	14N 14N	85W	9800	70	C	Arrow Lapland	16	2S	76W	9500
37	W	North French Creek	27	16N	80W	10200	79	C	Fremont Pass	2	8S	76W	11400
38	W	North Barrett Creek	30	16N	8UW	9400	91	Č	Lynx Pass	27	211	88N	9100
39	W	Rvan Park	34	16N	81W	8400	96	Ċ	Shrine Pass	15	6S	79W	10500
67	W	Spring Creek	32	15N	85W	9000	97	C	Grizzly Feak	2	58	76W	11250
68	N	Aibany	18	14N	78W	9400	102	C	Glen-Mar Ranch	31	2S	777	8850
71	W	Pearl	18	TSM	82W	8900	106	C	Nonarch Lake	30	2.7	7411	8550
							112	C	Granby	11	2N	77W	8700
00	_	Laremie	5	10N	77W	9800	127 138	C	Grand Lake	36	4N 2S	75N 75N	8600 11300
88	C	Roach "cIntyre	35	10%	76W	9100	139	C	Berthoud Summit Frazer View	10 34	2S	75N	10600
3	19	Brooklyn Lake	11	16N	78W	10200	143	C	Gore Pass	2	1N	82W	8900
11	'N	Foxpark	21	13N	7.8W	9200	146	č	Frisoo	18	6S	78W	3300
35	W	Libov Lodge	29	16N	78W	8700	147	C	Snake River	9	5S	76 N	9700
6د	V <b>y</b>	Hairpin Turn	24	16N	79W	9500	158	С	Summit Ranch	8	<b>4</b> S	787	10000
							163	C	Vail Pass	28	<b>5</b> S	79N	10000
		Sweetwater					167	C	Kokomo	23	78	79W	10600
29	W	Grannier Macows	19	3JN	100W	9000	168	С	rando	10	7\$	WC8	9500
47	A	South Pass	13	30N	101%	9000							
57	W	Larson Creek	12	30N	TO2M	9000	77		Roaring Fork	70	110	() Dur	20%.0
		Laramie Peaks Dist	riot				33 34	C	Ind. Pass Tunnel North Lost Trail	30 20	11S 11S	82W 87N	10700 9200
39	W	La Bonte	11	27N	74N	8450	45	C	Nast	1	9S	83 V	8700
	W	8oxelder	31	SON	7.5W	9000	100	C	Ivanhoe	12	9S	82W	10400
							144	Č	Ruby	1	128	83W	11500
		South Flatte							Ĭ				
1	C	Cameron Pass	2	6N	76W	10300			Yampa				
2	C	Chambers Lake	6	7N	75W	9000	6	С	Dry Lake	26	7N	84W	8300
3	C	Big South	33	81/	75W	8600	ġ	C	Elk River	21	5N	82W	3200
5	C	East Portal	2	2S	74W	9400	140	C	Routt Line	13	5N	83W	9730
14 15	C	Hoosier Pass	13 <b>3</b> 3	8S 9S	78W 77W	11400	141 142	C	Rabbit Ears	30	5N	83N	9550
41	C	Fairolay Wild Basin	24	3N	74W	10000	14 2	C	Yampa View	21	5N	84W	8500
50	C	Deadman Hill	26	10N	7.5W	10200			White				
60	C	University Camp	26	1N	75W	10300	35	С	Burro Mountain	15	2S	91W	9000
61	C	Loveland Pass	27	4S	76W	10600	36	C	Rio Blanco	28	ln	85₩	8500
68	C	Hour Glass Lake	18	7N	73W	9500							
83	C	Jefferson Creek	14	78	76W	10100			Plateau Creek				
95	С	Hidden Valley	23	5N	75W	9550	56	C	Mesa Lakes	35	118	96W	10000
115	C	Deer Ridge	19	5N	73W	9050	85	С	Trickle Divide	23	118	94W	10000
116 117	C	Copeland Lake	21 21	3N	7.5W	8600			Cuprises diver				
118	C	Empire Geneva Park	18	<b>3</b> S 6S	75W 74W	9650 975 <b>0</b>	18	С	Gunnison River Crested Butte	22	13S	86W	9000
120	C	Antero	1	138	7'/W	9200	46	C	Park Cone	19	148	82W	9700
128	C	Red Feather	26	10N	74W	9000	53	Ċ	Alexander Lake	2	125	25W	10000
133	C	Moffatt	2	25	74W	9400	55	Ċ	Snowshoe Mesa	14	138	89W	7500
154	C	Ward	1	TM	73W	9500	58	C	Ironton Park	29	43N	7 W	9800
137		Berthoud Falls	16	3\$	75W	10500	87		Park Reservoir	34	118	94W	9500
148		Longs Peak	32	4N	73W	10500		C	Porphyry Creek	19	49N	6E	10800
156 34		Lost Lake Pole Mountain	32 35	8N	75W	9300	101		Kannah Creek	5 12	12S	95 <b>W</b>	10700
04		1010 Montreatu	35	15N	72W	8700	104 132		Lake City McClure Pass	13 1	40N 11S	4W 89W	10300 9500
		Arkansas River					155		Red Mountain	13	42N	RM	11000
19	C	Tennessee Pass	21	88	80W	10200	200	J			7514	JII	11000
21	C	Twin Lakes Tunnel	22	118	82W	10500			San Juan				
72		Whiskey Creek		37.2N	105W	10300	29	C	Upper San Juan	10	37N	1E	10000
74		La Veta Pass	22	285	70W	9300	30		Silverton	10	41N	7W	9400
78	C	Four Mile Park	23	118	81W	9700	31		Casonde	12	39N	9 <b>W</b>	8850
81	C	Blue Lakes	30	318	69 <b>W</b>	10000	135		La Plata	4	36N	11W	9700
92 1 <b>1</b> 9		Monarch Pass Saint Elmo	16 31	49N	6E	10500	149		Spud Mountain	32	40N	8W	10700
121		Timberline	8	15S 9S	8OW 81W	10600 11100	150 151		Molas Lake Howardville	7 15	40N 41N	7W 7W	10500 9800
165		Cooper Hill	2	8S	8UW	10600	162		Mineral Creek	35	41N 42N	8W	10300
165		East Fork	9	88	79W	10700						J.,	

-2-LIST AND LOCATION OF SNOW COURSES (CONTINUED)

No		Name	Seo.	Twp.	Rge.	Elev.	No.	Name	Seo.	Twp	. Rgo.	Elea.
		Dolores						Arizona (Williams	)			
23	C	Rioo	11	39N	11W	8700	7 A	Iron Springs		14N	3W	6000
24	С	Teiluride	6	42N	8W	8600	15 A	Willow Ranch	16	21N	11W	5000
25	C	Lizzard Head	24	41N	10W	10300						
114	C	Trout Lake	8	41N	9W	9700		Arizona (Lower Co	lorado	)		
							9 A	Chalendar	27		3E	7100
		Green					10 A	Grand Canyon	21	30N	4E	7500
23	W	Dutoh Joe	33	31N	104W	8700	11 A	Bright Angel	34	33N	4E	8400
24	W	Muliigan Park	17	35N	108W	8900		-				
25	W	Kendall R. S.	23	38N	110W	7900		Rio Grande				
26	W	Loomis Park	14	37W	111W	8500	26 C	Wolf Creek	4	37N	2E	10000
27	W	Snyder Basin	15	29N	114W	8040	27 C	Upper Rio Grande	13	40N	4W	9350
28	W	Piney La Barge	19	29N	114W	8820	47 C	Silver Lakes	15	36N	5E	9600
		•					49 C	River Springs	25	33N	6E	9300
		Arizona (Gila)					76 C	Summitville	30	37N	4E	11500
11 N	M	Frisoo Divide	21	68	20W	8000	77 C	Cumbres Pass	17	32N	5E	10000
14 N	M	State Line	5	6S	21W	8000	80 C	Santa Maria	8	41N	2W	9700
22 N	M	Taylor Creek	20	108	10W	7850	82 C	Culebra		37.2N	105.2W	10000
23 N	M	Inman	6	118	10W	7800	84 C	Fort Garland	13	29 N	72W	8200
1	A	Nutrioso	23	6N	30E	8500	108 C	Platoro	22	36N	4W	9950
2	A	Beaver Head	13	4N	30E	8000	109 C	West Conejos	25	35N	4E	9450
3	A	Coronado Trail	26	5N	30E	8000	110 C	La · Manga	11	33N	5E	10000
29	A	Rose Canyon	15	128	16E	7300	122 C	Pyramid	26	41N	5W	10300
30	A	Bear Wallow	6	128	16E	8100	123 C	Spring Creek Pass	2	42N	3W	10900
							124 C	Pool Table Mt.	19	41N	2E	10000
		Arizona (Salt)					125 C	Lake Humphrev	32	40N	1E	9300
4	A	McNary	14	8N	23E	7200	126 C	Coohetopa Pass	12	45N	3E	10000
5	A	Forest Dale	2	9N	21E	6000	154 C	Porcupine	2	41N	3W	10400
6	A	Milk Ranch	28	8N	23E	7000	155 C	Wolf Creek Summit	6	37N	2E	11000
20	Ā	Paoheta				7800						
21	A	Fort Apache	18	7N	27E	9000	1 NM	Red River	29	28N	15E	9500
22	A	Baldy	28	7N	27E	9000	2 NM	Taos Canyon	10	25N	15E	9000
23	A	Maverick Fork	13	6N	27E	9050	4 NM	Aspen Grove	12	18N	10E	9100
31	A	Workman Creek	33	6N	14E	5860	9 NM	Hematite Park	8	28N	15E	9500
							12 NM	Tres Ritos	23	22N	13E	9000
		Arizona (Little Co	olorado)				15 NM	Payrole	16	28N	7E	9700
12	A	Fort Valley	22	22N	6E	7350	17 NM	Chama Divide		36.9N	106.7W	7750
	A	Mormon Lake	13	18N	8E	7350	18 NM	Chamita		36.9N	106.7W	8500
19	A	Mormon Mountain	14	18N	8E	7500	19 NM	Cordova	22	22N	13E	10100
							20 NM	Panohuela	27	19N	12E	8300
		Arizona (Verde)					21 NM	Big Tesuque	17	18N	11E	10000
8	A	Camp Wood	3	16N	6W	5700	24 NM	Elk Cabin	8	18N	11E	8250
16	A	Antelope Park	29	19N	8E	7300	26 NM	Rio En Medio	8	18N	11E	10400
17	A	Casner Park	19	18N	8E	6930	28 NM	Quema zon	34	20N	5E	9300
18	A	Munds Park	7	18N	7E	6500	29 NM	Bateman	5	26N	6E	9300
							31 NM	Fenton Hill	18	19N	3W	8900

SD - South Dakota; C - Colorado; W - Wyoming; A - Arizona; NM - New Mexico





Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

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